

Soybean Digest



Official Publication
OF
THE AMERICAN SOYBEAN ASSOCIATION

VOLUME 2 • NUMBER 7

MAY • 1942

MARKET SUMMARY

	SOYBEANS		April 11
May (old)	1.84 ^{1/2}	May 2	1.88
May (new)	1.85 ^{1/2} B	1.80 ^{1/2}	1.89 ^{1/2} A
July (old)	1.87 ^{1/2}	1.81 ^{1/2}	1.90 ^{1/2}
July (new)	1.88 ^{1/2} B	1.85A	1.91 ^{1/2} A
October	1.82 ^{1/2}	1.78	1.84

	SOYBEAN OIL		
Tanks, Midwest Mills.....	11 ^{1/4} c	11 ^{1/4} c	11 ^{1/4} c

	SOYBEAN OILMEAL		
	(May 8)	(May 1)	(April 10)
May	\$36.00	\$34.50	\$37.30
			@37.60
July	35.90	34.50	37.95
	@36.25	@35.00	@37.50
October	35.75	34.70	36.60
	@36.25	@35.00	@37.25

CASH CONVERSION SCALE		
1 Bushel Soybeans, wt. 60 lbs.		\$1.75
	INTO	
8.8 lbs. crude oil @ 11 ^{1/4} c.		1.034
49.5 lbs. Meal @ 1.7c.		.842
		1.876
Gross Processing Margin per Bu.		12.6c
Gross Processing Margin per Bu. Last Month		11.8c

Note: The values listed here are relative, and cannot correspond with your own transactions. Using your own figures, you can compute your own scale. This scale will show general trends.

STANDARD SHORTENING SHIPMENTS

(By Members of Institute of Shortening Mfgs., Inc.)

Week ending April 11.....	4,947,191
Week ending April 18.....	6,783,433
Week ending April 25.....	6,287,354
Week ending May 2.....	6,828,906

For the fourth consecutive month following the all-time futures high on January 30, soybean prices fell off. Meal also declined, but oil held to the legal maximum of 11^{1/4}c. During the last week of the period cash No. 2 yellow beans were 1c to 3c above May futures, reversing the previous trend.

Soybean Financing



WILLIAM H. BANKS WAREHOUSES, Inc., warehouse receipts on soybeans, oilmeal, and soybean oil, stored on your own premises, furnish you with needed working capital. Financing by means of field warehousing has been the accepted practice in the soybean industry for many years.

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THE Soybean Digest

Vol. 2

MAY * 1942

No. 7

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DON'T PLANT "McCLAVES"!

TESTS to date in various Agricultural Experiment Stations indicate that the "McClave" soybean (if there is such) is inferior to the standard varieties of yellow soybeans in yield and oil content. Through fragmentary comparisons of the best "McClave" results with the worst results of various standard varieties, and through half-truths, sponsors of "McClaves" have endeavored to make out a case for their soybeans.

THE Land Grant College agronomists who have exposed "McClaves" are staking their reputations on the accuracy of their analyses. The U.S.D.A. and Iowa Department of Agriculture experts likewise have no "axe" to grind.

Who are the farmers to believe — the public officials who have been appointed to protect them from fraud — or a promoter who tried to sell them a highly questionable piece of merchandise at outrageous prices?

Here are some facts to cogitate on before planting "McClaves."

1. The United States Department of Agriculture says that there is no such variety — but that it closely resembles the old Midwest, a variety abandoned because of its late maturity, bad shattering, and low oil content.
2. The Indiana agricultural experiment station finds that "McClaves" are indistinguishable from the old Midwest variety.
3. Martin Weiss, in charge of soybean research work at the Iowa Station, cooperative with the Bureau of Plant Industry, U.S.D.A., has stated that comparative tests definitely indicate that this supposedly new bean cannot be distinguished from the old, discarded Midwest variety, a low-yielding, low-oil, late-maturing bean that is inclined to shatter badly.
4. In tests by the Ohio Agricultural Experiment Station, "McClaves" were lower in yield than any of the standard yellow bean varieties in all locations where they were planted together.
5. "McClave" soybeans averaged 1.8 per cent lower in oil than the average of the five standard varieties with which they were compared, by the Ohio Station.
6. That National Soybean Processors Association is unqualifiedly opposed to "McClaves," and several of its members plan to "dock" "McClaves" 25 cents per bushel wherever they can be identified, because of their low oil content.
7. The American Soybean Association is unalterably opposed to this "variety," and warns its members not to plant them, unless they can obtain them at prices not higher than those prevailing for the standard varieties, and are prepared to take some loss.

This publication has had experience with the "McClave" affair ever since the Ohio promoter, Mr. Dieterich, breezed into this office, and wanted to take out a page advertisement in The Digest. When investigation revealed that he had misrepresented Experiment

Station findings, The Soybean Digest refused to accept his advertising.

It seems a pity that our laws apparently are not flexible enough to prosecute racketeering of this type. It is particularly unfortunate, when the United States needs all of the vegetable oil that it can get in the desperate struggle to win the war, that a few men who aren't troubled with the usual inhibitions, should attempt to prey off their fellow citizens and rob their country of precious pounds of oil which may mean the difference between victory and defeat on some battlefield.

The Soybean Digest feels that these men are playing their cards in this "McClave" deal in a kind of grandiose David Harum hoss-trade spirit — let the buyer beware. If he is a big enough "sucker" to buy "McClaves," then let him take the rap.

In view of the war situation, the humor of the situation is questionable. "McClaves" already have been banned from interstate commerce. It is to be hoped that before long the hoss traders may be brought to task. To date they have operated on the supposition that public officials wouldn't want to get their hands dirty.

Any grower who is still caught in the "McClave" affair must be the first cousin of the man who thinks that Teddy Roosevelt is still president.

ON April 10, the White House announced the conclusion of a "Joint United States-Canada Oil Crop and Coarse Grain Agreement." Under terms of the agreement, the United States is to grow more oil-bearing crops, while Canada will increase the production of oats, barley, and flaxseed.

The agreement is designed to strengthen the expansion of oil bearing crops in the United States and to help the Canadian feed situation. This is a commendable effort at cooperation with our closest Ally which should receive unanimous support.

THE past few weeks have seen the expansion of price fixing, and the inauguration of civilian rationing on a national scale for the first time in American history. During World War I, purchases of sugar were limited in quantity, but there was nothing but the citizen's sense of loyalty to prevent him from going from store to store.

The present law has teeth in it, and it is indicative of the national temper. No war has produced equality of sacrifice, and none ever will. However, a constantly strengthened home front will partially bridge the gap of sacrifice between soldier and civilian, and will speed the day when the Axis marauders can be effectively dealt with.

THE

Soybean Digest



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GEO. M. STRAYER, Editor

ROBERT BLISS, Managing Editor

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"Battle of the Soybean" III

WILL the nation's first wartime soybean crop equal or surpass the 9,000,000 acre goal? This question will have been decided before you read the next issue of The Soybean Digest.

Six months from now the first oil from this increased acreage will begin to aid the nation in its war effort.

Twelve months from now the soybean industry will better know how great must be their effort to help keep the United Nations supplied with vegetable oil. Perhaps this year's effort is only a puny prelude.

If Maine is the political barometer of the nation, Illinois, with half the production last year, is much more than the soybean production barometer. Indications are that Illinois will exceed its goal by 200,000 or 300,000 acres or a total acreage in excess of 3,000,000.

The Illinois College of Agriculture has aided in the increased production program by a publicity campaign including a circular "Soybeans, a War Crop. How to Get Top Yields," by Hackleman and Burris, and a seed testing and publicity service conducted by the department of agronomy.

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MISSISSIPPI

Meetings and publicity promoting soybean growing have been conducted in the 12 Delta counties, according to Director L. I. Jones of the Mississippi extension service.

Two extension leaflets by J. M. Weeks also have been issued — No. 20 entitled "Soybeans for Grain" and No. 21 "Peanuts." Peanut acreage expansion is being promoted in all counties in the state. Reports from individual counties indicate that the acreage goal in soybeans for oil purposes will be met or exceeded. Other

reports indicate that Mississippi may fall slightly under the goal set for peanut acreage.

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3 STATES PLAN BEAN CONTESTS

The Big Three of soybean production — Illinois, Indiana and Iowa — will have soybean yield contests again this year. Sponsors are the Indiana and Illinois crop improvement associations and the Iowa Corn and Small Grain Growers Association.

The Illinois contest will be on 10 acres, while Indiana and Iowa will have 5-acre contests. It will be all-out competition to see which state has the best record. Illinois was far in front in 1941 with Paul Wessbecker's yield of 50.76 bushels per

acre. Turn to Page 4 to find how Wessbecker won the championship.

If you are interested in entering a yield contest, address your state contest chairman. These are:

Illinois

Prof. J. C. Hackleman, Ext. Agron.
College of Agriculture
University of Illinois
Urbana, Illinois

Indiana

Prof. K. E. Beeson, Ext. Agron.
Purdue University
Lafayette, Indiana

Iowa

Mr. Joe L. Robinson
Agricultural Hall
Ames, Iowa

Oil Output Up

Soybean oil production and the crush of soybeans during the first quarter of 1942 was the largest ever recorded, according to a preliminary report released by J. C. Capt, director of the census. The production of soybean oil during the first quarter of 1942 amounted to 188,805,000 pounds and was 25 percent greater than the production during the cor-

responding quarter of 1941 and 7 percent greater than during the quarter ending December 31, 1941.

Data for soybean crush, oil production and stocks of soybeans at mills for all mills engaged in the crushing of soybeans are given in the following table for the first quarter of 1942 and for the corresponding quarter of 1941.

PRODUCTION OF SOYBEAN OIL

(First quarter of 1942 with comparisons for 1941 and the 3 years 1938-1940)

Item	Operations for Quarter Ending Mar. 31			1942 % of 1941
	3 yr. av. 1938-1940	1941	1942	
Number of mills crushing soybeans.....	55	78	79	
Soybeans crushed (tons of 2,000 lbs.)....	387,408	524,841	615,006	117
Soybean oil produced (000 lbs.).....	119,407	151,601	188,805	125
Stocks of soybeans at mills				
March 31 (tons of 2,000 lbs).....	318,721	315,626	597,208	189
Stocks of soybean oil at mills				
March 31 (000 lbs.).....	30,099	30,991	29,427	95

SOYBEANS TENTH AS CASH CROP

SOYBEANS ranked tenth as a crop source of cash income to American farmers in 1941. The crop ranked as a major agricultural commodity in four states — Illinois, Iowa, Indiana, and Ohio — and was listed as a source of cash farm income in 24 more.

As shown in Table I, soybeans were exceeded only by cotton lint, wheat, truck crops, corn, tobacco, cottonseed, potatoes, oranges, and apples, in dollar returns to farmers.

TABLE I

Cash Farm Income From Ten Leading Crops in the United States: 1941

	1,000 dollars
1. Cotton lint	937,834
2. Wheat	708,059
3. Truck crops	513,591
4. Corn	351,271
5. Tobacco	324,672
6. Cottonseed	170,185
7. Potatoes	159,382
8. Oranges	123,969
9. Apples	120,903
10. SOYBEANS	113,305

Source: B.A.E.

Farmers received \$402,272,000 from the four leading oilbearing crops during the year. (Table II)

TABLE II
Cash Income From Leading Oilbearing Crops: 1941

	1,000 dollars
1. Cottonseed	170,185
2. SOYBEANS	113,305
3. Peanuts	60,675
4. Flaxseed	58,107
TOTAL	402,272

Source: B.A.E.

Illinois again led the states in farm income from soybeans, totaling \$57,302,000, just half of the national total. (Table III)

Iowa farmers received \$17,670,000 for soybeans, Indiana farmers \$14,733,000 and Ohio farmers \$12,375,000. Five other states exceeded the \$1,000,000 mark.

Twenty-three per cent of the total Illinois crop income came from soybeans. Indiana followed with 15 per cent, Iowa with 11 per cent, and Ohio with 9 per cent. Eight other states derived a crop income percentage of at least one to the nearest whole number, from soybeans.

TABLE III
Soybeans: Cash farm income by states, 1941

State	Cash income 1,000 dollars	Per Cent* total crop income
1. Illinois	57,302	23
2. Iowa	17,670	11
3. Indiana	14,733	15
4. Ohio	12,375	9
5. North Carolina	1,756	1
6. Missouri	1,513	2
7. Arkansas	1,466	1
8. Michigan	1,207	1
9. Minnesota	1,010	1
10. Mississippi	828	0
11. Wisconsin	650	1
12. Virginia	487	1
13. Kansas	379	0
14. Kentucky	321	0
15. Delaware	265	3
16. Louisiana	252	0
17. Tennessee	184	0
18. Nebraska	174	0
19. Maryland	162	0
20. Pennsylvania	145	0
21. New York	88	0
22. New Jersey	83	0
23. Alabama	81	0
24. South Carolina	71	0
25. Georgia	53	0
26. Texas	38	0
27. Oklahoma	28	0
28. West Virginia	4	0
United States	113,305	2**

*To nearest whole number

**For all 48 states

Source: B.A.E.

★ PROCESSORS ★

OHIO CONFAB

Pointed discussions of the problems and needs arising from a war-gearred expansion of the soybean crop highlighted the Third Annual Conference of Soybean Processors and Agronomists.

Dr. R. D. Lewis, chairman, Department of Agronomy, Ohio State University, presiding, reviewed the Ohio and U.S. soybean production goals. A discussion of the problems involved in reaching these goals and what could be done to help solve them set the stage for the presentations which followed.

Roger Drackett, Development Director of the Drackett Co., Cincinnati, stressed the need for: (1) greater use of varieties having a high oil content, (2) new crop rotations for soybeans, and (3) more extensive statistics concerning planting intentions, farm holdings, etc. Many growers stored soybeans with a high moisture content at harvest in 1941. These beans are unsafe now and should be moved, dried or marketed before warm weather.

Results of fertility work with soybeans were presented and critically analyzed by Dr. R. E. Yoder, Chief in Agronomy, Ohio Agricultural Experiment Station. Though soybeans draw heavily on the soil resources for phosphorus and potash, yield increases resulting from applications of PK fertilizers are disappointing unless a good supply of active calcium (lime) is also present. Contrary to the common belief that the soybean is an "acid soil" crop, yields at Wooster have been increased as much as 8 bushels per acre by liming to neutrality the moderately acid soils. Furthermore, fertilization was more profitable after the lime needs were supplied. Adequate lime is essential for profitable soybean production just as it is for the profitable production of other legumes, corn, and wheat.

It now appears that the supply of seed and mill capacity for handling the prospective large crop are not likely to be serious limiting factors in reaching the goals set by the Government. However, seed of the de-

sired varieties is apt to be scarce. Planting in rows, rather than solidly, will require only half as much seed, which, at present prices, is a real saving. Although the cost of cultivating rowed beans may slightly exceed that of solid plantings, the higher yields, better control of weeds, and the weed-free condition of the fields at harvest are offsetting advantages.

The processors present went on record favoring the refusal to purchase soybeans of known low oil-yielding varieties except at a heavy discount. They also urge that greater attention be given to the planting of varieties known to be satisfactory or superior in oil content. Scioto, Dunfield, Illini, Mingo, Richland and Wisconsin 606 (listed in order of maturity — latest first) are recommended for Ohio.

Messrs. J. B. Park, L. E. Thatcher, J. A. Slipher, and D. F. Beard, of the Experiment Station, University, and Extension staffs also appeared on the program.

— D. F. BEARD

Extension Agronomist

— s b d —

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RESEARCH*



*Excerpts from address by Dr. T. H. Hopper, director, U.S. Regional Soybean Industrial Products Laboratory, before 1942 Illinois Farm and Home Week.

SOYBEAN FIBERS The possibilities of soybean protein for the manufacture of textile and felting fibers are under investigation. Results have been encouraging, but the quality factors necessary for a commercial fibrous product have not yet been obtained. A practical research accomplishment will be realized when methods have been perfected for the separation and purification of soybean protein of the quality required for this purpose. The protein fibers made for textile and felting purposes must withstand washing and dry cleaning without deterioration.

Textile fibers from casein are being used in the manufacture of felt for hats, replacing up to 40 per cent of the rabbit fur which heretofore has been imported, largely from the low countries of Europe and which is now unobtainable.

RESIDUE USEFUL When protein is separated from solvent-extracted soybean meal for purification, the soluble carbohydrates and only a portion of the protein is removed. The laboratory has demonstrated that this meal residue, containing as much or more protein than the original meal, can be used very satisfactorily in the manufacture of a phenolic-resin type of plastic material. In this plastic up to 20 per cent of the meal product may be used without loss of flow characteristics and lengthening of the curing time. This plastic material has as low as 0.5 per cent water absorption and has increased impact strength. It can be reported that powders for molding articles from this type of plastic material are now offered to commercial molders and are being used for some very important defense purposes. With modifications under study at present, it is anticipated that the percentage of the meal product used in this type of plastic may be very materially increased. If this can be done, there will be a considerable saving in phenol and formaldehyde, which have a variety of important defense uses.

GENETIC STUDIES

It is essential in the economy of producing soybeans that superior varieties be available for commercial production, together with full information as to the adaptation of these varieties to different soils and climates.

The genetic investigations (in co-operation with state experiment stations) are planned to give particular attention to such chemical factors as oil content, iodine number of oil, and protein content in the development of new varieties. Uniform nurseries are maintained to determine the regional adaptation of new selections. Through the splendid cooperation of the state experiment stations and the laboratory, these nurseries have been of material assistance in the early recognition and naming of three very promising varieties, namely, Chief, Patoka, and Gibson. A fourth variety will probably be named this spring. This fourth variety is adapted to the northern portion of the soybean belt and is superior in oil content and iodine number of oil, in addition to having improved agronomic characteristics.

Since 1936 the Regional Soybean Industrial Products Laboratory has been one of the agencies assisting in the program for increasing production and utilization of soybeans, and we like to feel that it has been a very material factor in the establishment of soybeans as a major crop and in furthering the utility of soybeans in furnishing essential commodities for consumption.

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★ O I L ★

QUARTER CENTURY Through the courtesy of J. I. Morgan, president of the Farmville Oil & Fertilizer Company, Farmville, N. C., The Soybean Digest is in possession of what is thought to be the oldest sample of American-produced soybean oil in existence.

Says Mr. Morgan: "This soybean oil was produced by the Farmville Oil and Fertilizer Company during the year 1917, and consequently it is 25 years old, this year."

★ GROWERS★

CHAMPION'S FORMULA How did he do it? That is the question which several of our readers have been asking since our February issue announcing Paul Wessbecker as winner of the first annual Illinois soybean growing contest.

Mr. Wessbecker, you remember, obtained a yield of 50.73 bushels per acre from his 10-acre plot of Illini soybeans. His home is at Mt. Pulaski, Logan county, Illinois.

In order that our grower-readers might benefit from Mr. Wessbecker's experience, we sent him an impromptu questionnaire, which follows:

- Q. Was seed tested for germination?
A. Yes — 95 per cent.

Q. Did you use inoculation?
A. Yes — Urbana Culture.

Q. Fertilizer?
A. Yes — 120 lbs. 0-20-20 (Darling's) per acre.

Q. What was the date of planting?
A. May 27.

Q. Rate of seeding?
A. 45 lbs. per acre.

Q. Row width?
A. 20 inches.

Q. Times cultivated?
A. Once with cultivator when 20 to 24 inches high. Once with harrow when about 6 inches high.

Q. Date of harvesting?
A. November 4, 1941.

Q. Remarks.
A. Ground was spring plowed — stocks turned under. This was an ideal bean season here. Ground is black loam.

"If you find any (soybean) oil that is older than this, which was produced in the United States, we would be interested in knowing who produced it."

So would we! If any reader knows of the whereabouts of any soybean oil of an older "vintage" than Mr. Morgan's, The Soybean Digest would be interested in knowing about it, or better yet, having a sample sent to the publication.

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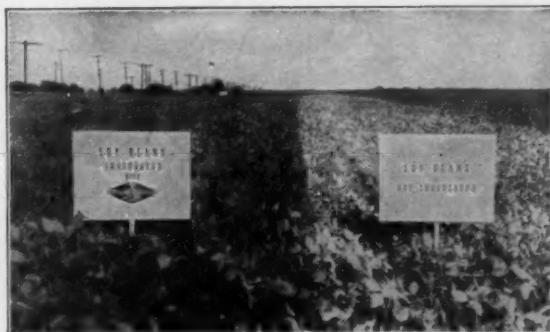
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EFFECT OF INOCULATION ON SOY BEANS

Treatment	Yield		Pounds Protein per ton
	Seed	Hay	
Inoculated	46.6 bu.	705	316.2
Not Inoculated	34.7 bu.	621	293.4
Gain for Inoculation	11.9 bu.	84	23.8

(University of Illinois Bulletin No. 310)

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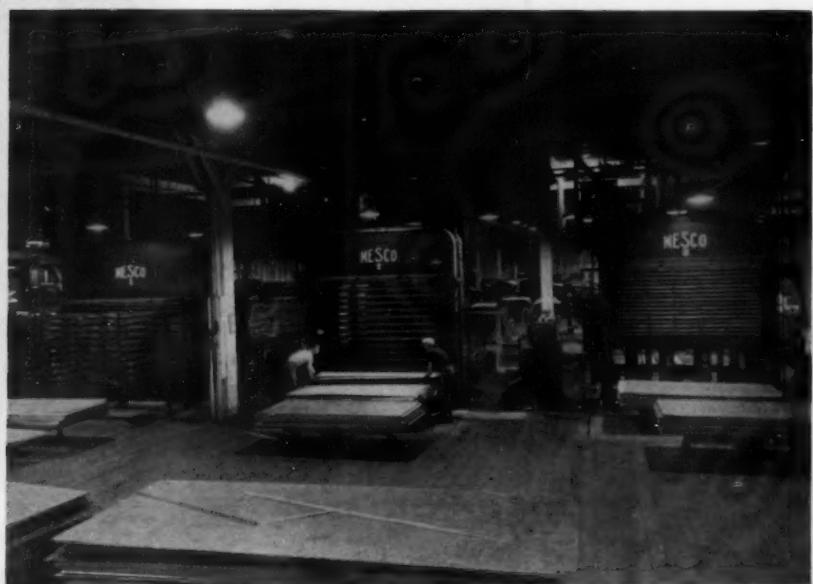
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(Above) I. F. Laucks. He founded the soybean glue industry. (Right) Three plywood hot presses utilizing soybean glue in operation at the Evans Products Company at Lebanon, Oregon.

HE STARTED A NEW INDUSTRY FROM SOYMEAL



THE Soybean Digest is pleased to present this month, Mr. Irving F. Laucks, Seattle, Wash., founder of the Soybean glue industry, the largest non-edible user of soybean oilmeal.

As a chemist, Mr. Laucks was called upon to test the cargoes of soybean press-cake from Manchuria which used to be unloaded in Seattle in the days just after World War I.

Convinced that there must be some industrial use for the product, he went ahead and found one, although it took him years of research and more years to sell his idea.

Today, Mr. Laucks and firms which he has licensed turn out some 30,000 tons of soybean glue annually, most of it for use by the plywood industry. Soybean glue has the advantage of being cheaper than starch glues, and water-resistant.

Laucks also manufactures waterproof resin glues.

Many difficulties had to be overcome in securing acceptance of soybean glue by the plywood industry. Processing, oil extraction, grinding, and milling methods had to be determined. It was necessary to establish methods of glue formulation.

At first, little home-produced soy-

bean oilmeal was available, so it was necessary for Laucks to send chemists to the Orient to secure uniformity of press-cake shipments. By various steps a uniform, dependable output of soybean glue was insured.

It was not until 1926 that "Lauck's bean soup" got its big chance. The plywood industry became desperate in its struggle to keep pace with the demand for automobile running boards for the skyrocketing automotive industry. An abundant supply of water resistant glue was the requisite. Their plywood had to stand being stepped on and to come out of an unexpected shower on a Sunday joyride without delaminating.

A series of competitive demonstrations of water-resistant glues was therefore held — Lauck's bean soup made the grade. In fact, it was so outstanding that within one year every plywood plant on the Pacific coast was using it exclusively. To accomplish this, new types of machines for spreading and handling veneers had to be worked out.

The very thing which had caused the non-acceptance of soybean glue — its lack of stickiness — became one of the chief reasons for its becoming permanently entrenched in the plywood process.

Because of this lack of stickiness, veneers glued with soybean glue are easier to handle. Production in the plywood industry was speeded up tremendously.

Eastern hardwood veneers could be coated with soybean glue at a moisture content of around 20 per cent, and then redried, reducing breakage.

The technical battle was won by Laucks. A legal battle followed, in which industrial "hitchhikers" attempted to violate the soybean glue patents. Later Laucks licensed a number of competing firms.

A few years after soybean glue was solidly established in Pacific coast plywood plants, the Laucks company began shipping it to Eastern gum and birch plywood box plants. This led to the opening shortly thereafter of a soybean glue factory at Bloomington, Illinois, to more conveniently supply these eastern manufacturers.

In 1932, a plant was started in Portsmouth, Virginia, both to help develop the production of soybeans in the North Carolina district and to provide a regulated supply of soybean meal for the manufacture of the glue in Seattle. Today the Laucks

(Continued on page 7)

INOCULATION STILL PAYS

By O. H. SEARS
University of Illinois

FOR many farmers, the inoculation of soybean seed with good commercial inoculants will be one of the best investments they can make in 1942. Because the cost is small in time and money and the gains are large for each acre, inoculation will return large dividends.

The goal for 1942 is three million more acres of soybeans than were grown in 1941. If this goal is attained or exceeded, as it is likely to be, a considerable part of the additional acres will be growing soybeans for the first time. On such land, failure to inoculate the soybean seed may result in reduced yields of 5 to 10 bushels of beans to the acre. At the present price, the penalty for failure to inoculate would be high in dollars and cents.

On land where well nodulated soybeans have grown previously suitable nodule bacteria may not be present in sufficient numbers to give maximum yields. The nodule bacteria do not survive long in soils which are distinctly acid or sour and, on such soils, to inoculate is to play safe.

Even on limed land where soybeans have been grown frequently, inoculation is still an economical form of insurance. Even though only one or two more bushels of soybeans are obtained per acre, with food production so important in the national defense program, it not only is profitable to inoculate — it is patriotic.

Good commercial inoculants are superior to any other form of inoculation. While soil served a useful purpose before satisfactory inoculants were available, maximum nodule development is not secured until two to four soybean crops are grown on the land. Good commercial inoculants, on the other hand, may be expected to give satisfactory nodulation the first year. Consequently this is not the year to try soil inoculation.

Commercial inoculants are distributed in the form of agar (jelly) and humus cultures, and each has given good results when used according to the directions found on the inoculant container. It is important, however, to follow the directions given. If too much water is used, the seed coat of the soybean seed has a tendency to wrinkle and the cotyledons may break apart, thus



DR. O. H. SEARS

impairing the stand. Even if this does not happen, wet beans seldom drill satisfactorily. There should be no difficulty experienced, however, where the directions are followed correctly.

Even with humus cultures, best results are likely to be secured if water is used. While it is possible to obtain good results without water provided an even distribution of the humus on the seed is secured, on the average better results with the humus cultures are secured if applied with water.

— s b d —

NEW INDUSTRY

(Continued from page 6)

source of raw soybeans is the Middle-west as well as the South.

Related industrial uses for soybean oilmeal were developed by Laucks — paper coating adhesives for washable wallpaper, binders for paints, emulsifiers for fruit sprays, and binders for briquet making. The former was made possible by Glidden's Alpha Protein.

Today, at 60, Mr. Laucks confidently and enthusiastically looks forward to the future of the soybean industry.

— s b d —

U. S. JOBS OPEN

The federal government now is seeking applicants for civilian war service in a number of fields, including among others industrial machinery, chemicals, foods, transportation, finance, foreign trade and economic geography. For further information write U. S. Civil Service Commission, Washington, D. C.

Classified

"SOYBEANS, THE WONDER FOOD" — A brief treatise on Modern Nutrition, by Dr. N. A. Ferri, M.D. 64 pages crammed with interesting facts on the "miracle" bean. A little book that everybody should read for its great value in teaching about soybeans. 35c postpaid. Wonder Foods Co., 3737 W. Division St., Chicago, Illinois.

— s b d —

The Ohio Farm Defense Board, the Ohio State University extension service, machinery manufacturers and other agencies are cooperating to assist farmers in determining machine repairs needed in 1942 and in getting these parts by the time they are required.

Increase Your Profits

— by planting high yielding,
early maturing

Iowa State Certified Mukden Soy Beans

Grown and distributed by
JOHN SAND, Marcus, Iowa

ALL OUT FOR VICTORY

**WITH
DANNEN'S
SOYBEAN
OIL MEAL**

Uncle Sam needs soybean oil and American farmers are raising more soybeans to furnish this oil. That means more DANNEN'S SOYBEAN OIL MEAL will be available for production of more meat, milk, and eggs. You can cooperate by using DANNEN'S SOYBEAN OIL MEAL (expeller type) in your feed rations.



For LIVESTOCK AND POULTRY

**DANNEN
GRAIN & MILLING CO.
ST. JOSEPH, MO.**

YOU SUPPLY THE P. K.

By J. W. COVERDALE,
Rath Packing Co.

THE culture of soybeans in the cornbelt is growing by leaps and bounds. Never in the history of American agriculture has a new crop been adapted so quickly, unless it be hybrid corn. Soybeans in the crop rotation are becoming more popular each year as the grower sees the value of fitting them into his program in place of small grain and clover. Even in the more rolling districts, contour farming and soybeans work well together.

Producers of large yields have found it most practical to prepare the seed bed early and keep the soil tilled often in order that all early weed growth may be killed, planting the beans in rows or double rows, or by broadcasting, then cultivating three or four times when planted in rows or harrowing well on broadcasted beans when they are three to four inches high, and of course, inoculating the beans with a nitrogen culture before each seeding regardless of how many times beans have been in that ground.

Plant food removed by the production of a 30-bushel-per-acre crop, in fertilizer terms, 132 pounds of nitrogen, 42 pounds of phosphorus, 48 pounds of potash, or a total of 222 pounds of plant food. If the beans were inoculated the nitrogen used was largely taken from the air, otherwise it must come from the soil. Thin soil without inoculation produces a poor crop — inoculate the beans and the yield will be much better. Apply needed fertilizer to the soil and the yield will be still greater.

If the straw and leaves from a 30 bushel crop of beans are removed with the grain the total removal will be 150 pounds nitrogen, 50 pounds phosphorus and 72 pounds potash.

Total Value Removed

The total value of plant food removed by a 30 bushel crop of beans, less the straw, is \$22.28, but about \$16.50 of this is nitrogen, largely manufactured from the air by the plant and that leaves a charge of \$5.78 for phosphate and potash removed.

The plant food removed by 2000 pounds of alfalfa hay is \$3.26 in phosphorus and potash, plus \$5.82 for nitrogen which is largely taken from the air.

In corn a 60 bushel crop removes 57 pounds nitrogen, 23 pounds phosphorus, and 15 pounds potash with a total value of \$19.66 or a 30 bushel crop, \$9.83. With the corn no credit can be allowed for nitrogen as it all must come from the soil. Therefore, in fitting soybeans into the crop rotation with corn all the straw and leaves should be plowed under immediately after harvest in order that the organic matter be mixed into the soil.

The replacement of plant food to keep the soybean yield steady at 30 bushels per acre should be the equivalent of 210 pounds of 20 per cent superphosphate and 96 pounds muriate of

potash per acre. According to best information from growers, broadcasting the fertilizer and plowing it under, or discing it in before planting the beans, produces the best results. If a higher yield is sought then step up the fertilizer application to 500 or 600 pounds per acre.

Of course, in using heavy fertilizer applications it is necessary to have the pH or lime requirements well taken care of. A high acid soil locks up plant food; a neutral or nearly neutral soil releases plant food. In Indiana extremely heavy yields have been secured with applications of 800 to 1000 pounds fertilizer per acre. As a general rule planter applications of fertilizer are not satisfactory.

The phosphoric acid for the growing crop comes from the soil supply, or fertilizer, or manure additions. The figures for phosphate application perhaps have the least significance so far as determining the rate of application. This is due to the fact that a large part of phosphoric acid applied reacts with materials in the soil in such a way that it is fixed or absorbed and then is only slowly available to the plant. Thus the amount of phosphate applied should be large enough to take care of the soil's fixing power and have some left for the growing plant. As I said before, liming helps somewhat.

On Sandy Soils

On light sandy soils fixation is much less than on heavy soils. Therefore, a steady use of phosphate for several years will correct this condition and then rates of application may be cut down somewhat. On newer soils and heavy soils use large amounts of phosphate.

The available potash content of the soil is of great importance to the soybean crop. The total potash content of the soil is of no significance since most of it is locked up. If the available potash is low heavy application will make the bean yield respond to the rate of application.

Sandy soils are usually low in available potash. The heavier ones are usually better supplied but crop removal without replacement affects the yield. On some heavy soils where the soil is subject to alternate wetting and drying there is heavy absorption and the rate of application should be high.

Peat and muck are usually low in potash and require high applications.

In general we have found the indicator or quick soil tests, that show trends of availability of phosphoric acid and potash, are very valuable in determining fertilizer or plant food applications.

In some 6000 tests we have made during the past year we have found a wide variance between fields on the same farm and also that many fields are out of balance in plant food availability. For instance, we found high nitrogen in second or third crop sweet clover with low available phosphate and medium to low potash. Or, it is often high phosphate and low potash. We find many variations and wherever one of the main elements of plant food is low or extremely high a good response in yield is shown when the low elements are replaced with sufficient amounts to bring the availability into balance.

The question of soybean meal as a fertilizer ingredient is often asked, since one ton of meal contains 5.6 pounds calcium, 141.8 pounds nitrogen, 14.5 pounds phosphoric acid and 44 pounds potash. These elements on the present fertilizer market make a ton of soybean meal worth around \$21.50 per ton delivered to the farm. It makes a good conditioner for general field fertilizer and is also a fine conditioner and foundation builder for lawn and flower use. When the price is low it is often used straight for lawns and gardens.

So in summing up the soybean from the soil building standpoint, it can and will be used more and more in our rotation system in building and conserving our cornbelt soils. However sufficient inoculation should be used to keep the nitrogen manufacturing machinery in operation and sufficient available phosphate and potash should be supplied to insure plenty of plant food for the highest possible yield of sound beans.

— s b d —

Three million United States farms now are included in soil conservation districts.



J. W. COVERDALE

PARITY ARRIVES

NO American crop, particularly one of recent foreign derivation such as the soybean, could be considered to be "assimilated" until it has been assigned a "parity" by the Bureau of Agricultural Economics.

Now, the soybean has such a rating, so it can truly be considered as one of us. Some day, no doubt, "soybean nuts" will be as characteristically American as corn-on-the-cob.

B.A.E. Stumped

The B.A.E. was stumped for some time when it came to assigning parity to the soybean. Parity for all the basic American crops is founded on the 1910-1914 average prices. The "prices of commodities which farmers must buy" are of course computed on the same basis.

The question which bothered the B.A.E. was: How to fit soybeans into the "parity" picture, when soybeans were not grown commercially in quantity during 1910-1914 — the arbitrary base period for all parity computations?

Should "parity" for soybeans be computed with some period during the 1920's serving as a base? This was decided against because during the 1920's there was no crushing industry and such soybeans as were sold for seed brought prices considerably in excess of those which have prevailed since the oil crushing industry emerged into prominence.

Answer Found

The answer finally determined upon by the B.A.E. was to base computations on the period 1934-1939. This was considered equitable because:

- (1) The oil crushing industry was firmly established at this time.
- (2) This period, just preceding World War II, was considered in some ways similar to 1910-1914 preceding World War I.

However, the word "parity" must not be applied to any other yardstick than the 1910-1914 period. This had been provided for in Public Law No. 147, Seventy-Seventh Congress, which prescribed the conditions under which "comparable" prices might be established by order of the secretary of agriculture, where accurate data was not available covering the 1910-1914 period.

The procedure was left to the B.A.E. In the case of the soybean,

this involved dividing the average price of soybeans in the period August 1934-July 1939 by two factors: (a) the average percentage ratio of prices for the five basic commodities to their parity prices in that period, and (b) the average index number of prices paid by farmers for commodities purchased, including interest and tax payments (1910-1914 = 1.00).

Base Determined

This resulted in a base price of 95 cents for the period and a "compar-

able price" of \$1.39 on January 15, 1942, at a time when the actual price was \$1.65.

The order of January 16, guaranteeing \$1.60 for approved varieties of soybeans of No. 2 grade or better stated that the price offered should be 85 per cent of the "comparable price," but in no event less than \$1.60 per bushel.

In this case, unique supply and demand conditions knocked the "comparable price" completely into a cocked hat. At any rate, even if the soybean farmer does not have a parity price for a yardstick, he has the best equivalent which the B.A.E. could devise.

IT PAYS to Inoculate Soybeans EVERY YEAR

LEGUME-AID



GUARANTEED INOCULANT

The following quotations are from a letter written by a practical farmer who has proved to himself that it pays to inoculate Soybeans every time they are planted, regardless of whether the seedbed has been previously inoculated or not. Here are his statements:

"The ten acre field selected for the test . . . had been planted with inoculated Soybeans the previous year. We inoculated the Soybeans planted on the south half of this field, but did not inoculate the north half.

"During growing stages . . . little visible difference was noted. However . . . when the Soybeans were threshed . . . the inocu-

lated portion showed a yield of more than 5 bushels more per acre over the uninoculated portion.

"This comparative test made under identical conditions on my own farm convinced me beyond doubt that it always pays to inoculate Soybeans every year . . ."

SEED-AID HORMONE Seed Treatment

A synthetic hormone compound in powder form, which has produced remarkable increases in many different crops by simply dusting on seeds. SEED-AID helps nature through stimulating the formation of a strong root system that results in more vigorous growth. Its use does not interfere with the application of seed disinfectants or inoculants. SEED-AID costs so little that it may be employed freely. Recommended for Cotton, Corn, Sugar Beets, Small Grains, Peas, Beans, Vetch, Peanuts and other legumes. Ask your dealer or write direct.

AGRICULTURAL LABORATORIES, INC.

1135 Clinton Ave., Columbus, Ohio



SOYBEANS...and People

WITH large quantities of soybean flour going to Great Britain, interest this month centers on the many uses of soybean flour. Some large plants are placing their entire output in this channel.

Following is a list of recipes which you should try and become familiar with. They are certain to become more and more popular in the years to come, so try them now and learn the forms in which you like your soybean flour best.

These recipes have all been tested and released by the kitchens of the Edison Institute, Dearborn, Michigan.

BREAD

1½ cups soy bean flour
4 cups bread flour
4 tbsp. gluten flour
¾ oz. yeast
1 tbsp. condensed milk
1 tsp. salt
½ oz. butter
1 egg
¾ cup water

SOY-BRAN BREAD

1 egg
2 tbsp. shortening
2 tbsp. sugar
2 cups bread flour
1 cup bran
1 cup soy flour
3 tsp. baking powder
1 tsp. salt
1½ cups milk
1 cup raisins

NUT BREAD

1 cup brown sugar
2 cups sour milk
1 tsp. baking soda
3 tsp. salt
2½ cups bread flour
1 cup soy bean flour
2½ tsp. baking powder
1 cup roasted soy beans

Combine sour milk, brown sugar, salt, baking soda. Mix well. Mix soy bean flour, bread flour, and baking powder, then add to sour milk mixture. Fold in roasted soy beans. Bake in a well-greased and floured pan for 40 minutes at 350° F.

CINNAMON ROLLS

1½ cups bread flour
½ cup soy flour
4 tbsp. shortening
½ tsp. salt
4 tsp. baking powder
¾ to 1 cup milk or water

Roll out dough to ¼ inch thick, spread with melted butter, sprinkle thick with sugar and cinnamon. Roll up dough and cut into 1½ inch slices. Bake.

MUFFINS

1 cup soy flour
1 tbsp. butter
1 tbsp. brown sugar
1 egg
1 tsp. soda
1 cup sour milk
Salt

Cream butter and sugar. Beat egg and add butter and sugar. Add soda to sour milk and add to other ingredients, adding flour last. Bake for 10 minutes in a quick oven, then reduce the temperature.

MUFFINS

½ cup shortening
1 tbsp. sugar
1 egg
4 tsp. baking powder
1½ cups bread flour
½ cup soy flour
½ tsp. salt
½ cup dates — chopped
1 cup milk
Juice and grated rind of ½ lemon
or orange

Blend shortening, sugar, egg. Add dates, lemon or orange. Sift flour and baking powder and add half to shortening mixture. Add milk and the remainder of flour. Bake in hot oven — about 375° F. — for 20 minutes.

STEAMED SOY BEAN BREAD

1 cup soy flour
1 cup graham flour
1½ cups corn meal
1 cup bread flour
1 cup molasses
2 cups milk or water
3 tsp. salt
1½ tsp. baking soda
2 cups seedless raisins

Combine milk, salt, baking soda and molasses. Mix well. Blend soy flour, graham flour, corn meal and bread flour, then add to first mixture. Fold in raisins. Place in a steamer and cover with a tight lid and steam for 2½ hours, or set the jar in a pan partly filled with water and bake in oven 1½ hours at 375° F.

BISCUITS

Any recipe for baking powder biscuits may be used, replacing a part of the white flour by that much soy flour. Better not use more than 10 per cent to 15 per cent of bean flour until it is tried out — on account of the taste.

BISCUIT

2 cups soy flour
4 tsp. baking powder
½ tsp. salt
1 egg
½ cup cream
½ cup milk or more

Mix in order given. Drop from teaspoon on to a greased and wiped sheet pan. Start in a hot oven, but reduce immediately. This recipe containing no wheat flour may be used by diabetics.

BISCUIT

1 cup soy bean flour
1 cup bread flour
4 tbsp. shortening
3 tbsp. sugar
1 tsp. salt
3 tsp. baking powder
½ cup milk

Combine flours, salt, sugar and baking powder. Rub lightly between fingers until butter is well blended. Add milk and mix. Roll out ½ inch thick on slightly floured board. Cut out and bake in oven at 400° F. for 12 minutes.

WAFFLES OR GRIDDLE CAKES

3 egg yolks
3 tbsp. sugar
1 tsp. salt
½ tsp. baking soda
1¼ cups sour milk
½ cup bread flour
½ cup soy bean flour
3 egg whites

Pour sour milk into bowl. Add soda and stir well. Add salt, sugar, well-beaten egg yolks, and melted butter. Add flour slowly. Fold in beaten egg whites.

WAFFLES

1½ cups pastry flour
1½ cups soy flour
2 eggs
2 cups milk
3 tps. baking powder
1 tbsp. melted butter
½ tsp. salt

SOY LOAF

2 cups soy beans cooked and mashed
½ cup bread crumbs
2 eggs
½ cup milk
2 tbsp. grated onion



A good crop of soybeans will grow on good land without proper inoculation — but it grows at an extra cost of at least \$10 per acre in nitrogen taken from the land.

Neither prior crops nor the presence of nodules guarantee the proper inoculation necessary to take this nitrogen "Free From the Air."

Always Use



INOCULATION

"THE PEER OF THE BEST!"

Guarantee proper inoculation
at a cost of only pennies
per acre

**TOP RANKING QUALITY
AT NEW LOW PRICES**

2 bushel size.....	\$.30
5 bushel size.....	.45
25 bushel size.....	1.95
30 bu. size (6-5 bu. cans)....	2.60

**KALO INOCULANT
COMPANY**

QUINCY, ILLINOIS

4 tbsp. butter or shortening
 ½ cup water
 1 tbsp. celery salt
 Mix all ingredients. Put into a buttered pan and bake for 20 to 30 minutes. Serve with tomato sauce.

SOY LOAF

1 cup cooked rice
 1 cup cooked soy beans
 2 hard boiled eggs chopped
 1 cup milk
 1 tbsp. oil
 1 scant cup bread crumbs
 ¼ tsp. poultry seasoning
 1 tbsp. minced onion
 Salt to taste

Mix and bake in a greased pan.

SOY LOAF

2 cups soy cheese
 4 eggs boiled hard
 5 tbsp. tomato juice
 1 tbsp. finely chopped onions
 2 tsp. Worcestershire sauce
 Salt to taste

Bake and serve with tomato sauce.

— s b d —

Hollywood Journal Lists Soy Menus

Centering in Los Angeles, Calif., is a health food industry of considerable proportions. A recent issue of "Health News," edited by Clarke L. Irvine and published at Hollywood, contains these suggestions for soybean foods:

Soy Mushroom Soup

1 large can soybeans
 6 large onions, sliced
 1 cup fresh tomatoes
 2 green peppers, finely chopped
 4 carrots, diced
 ½ teaspoon veg. salt
 1 can mushroom soup

Cook slowly, onions, peppers, tomatoes, carrots, salt. Add soybeans and mushroom soup. Bring to boil. Serve.

Soybean Croquettes

½ cup tomatoes
 2 tablespoons minced onions
 2 tablespoons soy flour
 2 cups soybeans, cooked and ground
 1 cup celery, diced

Add minced onions to tomatoes. Bring to a boil. Add soy flour and cook to thick paste. Cool. Add to celery and soybean pulp. Shape into croquettes. Bake in moderate oven 20 minutes.

Soy Welcome Soup

16 oz. can soybeans
 1 small can peas
 hot water
 ½ cup cream
 2 egg yolks
 3 tablespoons butter
 small bunch watercress
 generous sprig mint
 handful green celery leaves
 handful carrot greens
 ½ head lettuce
 2 green onions including tops
 seasoning

Rub soybeans and peas through colander. Add hot water. This is stock. Melt butter in saucepan. Chop all greens. Add to melted butter. Stir while sautéing. Add little water as needed. Simmer, stir, till greens tender. Remove. Add legume stock. Place on fire again. Stir. Cook enough to merge flavors. Remove from fire. Stir in cream and egg yolks well beaten together. Return to fire one minute and while seasoning to taste, stir to prevent burning.

Breakfast Treat

Place one or two slices of Cubbison's Zwieback, Soya Toast or Melbettes in cereal bowl. Serve with cream and fresh fruit in season.

KELLOGG'S Soybean Oil Meal

43% PROTEIN



A good poultry formula is a direct contribution to the nation's fight for Victory. Kellogg's old process Soybean Oil Meal, while carrying a minimum guarantee of 41% protein, actually has been delivering more than 43% for the past twelve months.

Its palatability, digestability and high productive qualities are the natural result of Spencer Kellogg research and large technical and production facilities. Quality feeds were never more important—get Kellogg's Soybean Oil Meal into your formulas.



SPENCER KELLOGG AND SONS, INC.

SALES OFFICES: Buffalo, Chicago, Decatur, Ill., Des Moines, Minneapolis, Los Angeles.

MILLS: Buffalo, Chicago, Decatur, Ill., Des Moines, Minneapolis, Edgewater, N. J., Los Angeles.



Photo courtesy Chicago Daily News.

The ingredients are on the table, and another Glidden food product is on its way to the consumer. This product will emerge in cans—a delicious, high protein product. The Glidden company has pioneered with scores of food

products utilizing the soybean. Right now, the company is busy with "defense biscuits" (S.D. March '42) and pork soya link for shipment to Great Britain, in addition to the hundreds of soya products which it ordinarily manufactures.

EXPLAINS CORNELL NUTRITION CENTER

Editor's Note: Cornell University, Ithaca, N. Y., recently has established a nutritional information center. For an idea of the work of this center, and its attitude toward soybean products for human food, The Soybean Digest presents the following remarks by Clive M. McCay, professor of animal nutrition at Cornell.

Tis possible that the war may put the soybean into its rightful place in human nutrition, if the problems of retail distribution can be solved. For this reason we are especially interested in soybean products.

In regard to the new nutrition information center that we have been establishing for some weeks, I may say that it is a reflection of the needs of the new conditions that are arising. Due to the fact that we will soon be faced with restrictions on food supplies in many lines, most families will have to change their food habits.

We believe that this is an excellent time to improve them.

In the past, laboratories such as ours have given attention only to the scientific aspects of nutrition, without considering food supplies, processing, distribution and marketing. In normal times we have felt that we should set our attention upon scientific nutrition, since new discoveries would be followed by adjustments in these other fields.

Now we appreciate that we can render a real service by gaining an overall picture that will include scientific nutrition as in the past, and also give adequate consideration to the factors that influence purchases by the consumer, such as advertising, Government regulations that concern foodstuffs, related products such as soaps, etc. We are attempting to evaluate carefully the activities of trade organizations, public health departments and all the agencies that modify the availability of food supplies. We are not neglecting the agricultural feed nor the feed industries, since we have been in close contact with these during most of our working life, and since our situation in an agricultural college and our close contact with feed manufacturers keep us well informed concerning this aspect of the problem. — C. M. McCay, Professor of Animal Nutrition, Cornell University.

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NAMES SOUTH'S BEST VARIETIES

Of the varieties of soybeans more or less commonly grown in North Carolina and throughout much of the South, that are recommended for the production of soybean oil of a yellow

color, the following are preferred for growth: Mammoth Yellow, Tokyo, Woods' Yellow, Herman, Haberlandt and Clemson. Of these, the content of oil in the seed is lowest (17 to 18 per cent) in Wood's Yellow and Clemson, and the highest (20 to 22 per cent) in Herman. The oil in the seed of the other varieties will usually range from 18 to 20 per cent.

By the hydraulic method of expressing out the oil from the seed from 4.5 to 6 per cent of the oil of the seed is left in the meal. This is the method commonly used in the South. The per cent of protein content will be about 42 for the Herman and Haberlandt and from 44 to 46 per cent with the seed of the other varieties.

The shortest period to mature (130 to 135 days) will be required by the Haberlandt, Herman and Wood's Yellow varieties. Mammoth Yellow will require more time, it being about 145 days and Clemson 160 days. Of this group of varieties, Wood's Yellow, Tokyo, Herman and Mammoth Yellow would generally be found to be the highest yields of seed per acre for North Carolina and similar conditions in other Southern States. The average yield of soybeans per acre in 1940 was 13.5 bushels for North Carolina as compared with 16.1 bushels for the United States. — C. B. Williams, North Carolina Agricultural Experiment Station.

— s b d —

EYE GRADE CHANGE

Hearings have been held this month at Toledo, Chicago, Peoria, and Cedar Rapids to determine the opinion of interested parties on a proposed amendment to the Official Grain Standards of the United States for soybeans.

The proposal involves two considerations: (1) The adoption of the air oven rather than the water oven as the basic method for determining moisture content of soybeans, and (2) if the air oven method be adopted whether adjustments should be made in the maximum limits of moisture content in the soybean grades to compensate for the difference in results obtained by the first two methods.

— s b d —

WANTS GARDEN SOYBEAN LIST

Although Bansei is the only vegetable soybean listed by many garden seed houses, the Ohio Agricultural Experiment Station at Wooster reports that requests for sources of 12 or 15 other varieties of vegetable soybeans are being received daily. An

example is the Giant Green variety, which is well adapted to Ohio growing conditions, but as yet is listed by few seed houses.

Donald Comin, vegetable soybean specialist for the station, suggests that growers write to him so that those who desire seed of various vegetable varieties can be referred to those who have seed for sale.

— s b d —

DIES AUTHOR OF SOYBEAN BOOK

"Must reading" for the soybean industry is "Soybeans: Gold From the Soil," written by Edward Jerome Dies, president of the National Soybean Processors Association, and just released by The Macmillan Company, New York.

In 122 interesting pages, Dies tells the story of the American soybean industry, and presents a soybean chronology and bibliography. Supplemented by ten tables and charts, the book will find its way onto the shelves of all who are interested in the history, perspective, and prospective developments of the American soybean industry.

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FILM AVAILABLE

"Plywood on the Farm," a 16 mm. Kodachrome and sound film, released by the Douglas Fir Plywood Association, is available for distribution. The film may be booked through J. D. Long, Fredonia, Kansas, or the Association office in the Tacoma Building, Tacoma, Washington.

— s b d —

Experiments at the Ohio Agricultural Experiment Station indicate that for best results with soybeans the soil reaction should be nearly neutral.

— s b d —

1,417 CARS OF BEANS INSPECTED

A total of 1,417 cars of soybeans were inspected under the Grain Standards Act for the period March 16-March 31. Inspections included: Illinois, 1,165; Indiana, 70; Iowa, 44; Missouri, 14; and Ohio, 124.

— s b d —

The Ford Motor Company announces that it is now producing its synthetic soybean fiber at the rate of 1,000 pounds a day. A pilot plant, described by David Ramseyer of the soybean division of Ford Motor Company at the last A.S.A. convention, has been in operation for several months. The fiber, resembling wool, is used in automobile upholstery.

SOYBEAN DIGEST

If You Have Poultry or Livestock

and

If You Are a Soybean Grower

Then you should be feeding Purina Chows. These feeds are supplements to your grain and they are made to do a more profitable job of producing pork, eggs, or milk than straight grain will do. And they use soybean meal as a major source of protein. In fact, Purina Mills is the largest user of soybean oilmeal in the country. Use the feeds that utilize the beans you grow! Purina Mills, St. Louis, Mo.



BLITZ THE SUBS

Chase sub-normal yields. Produce bigger and better crops, now that they are so badly needed. Use NOD-O-GEN to inoculate every pound of soy beans and other legumes you plant. Order from your dealer today.

Inoculator Division
THE ALBERT DICKINSON COMPANY
Chicago, Illinois Est. 1854

NOD-O-GEN
The Pre-tested Inoculator

America's Largest Selling
Complete Inoculator Line



TOO little and too late can't help you in a fight against time when every ounce of energy in your organization is straining for production and more production.

In times like these, you want a source of solvents supply that you can depend on for both the quality and quantity you must have. And when you order SKELLYSOLVE—you get just that. Any quantity within reason . . . quality that's guaranteed . . . and delivery where and when you need it.

Phone, write, or wire and we'll do the rest. Special technical service, too, if you need it.



SKELLYSOLVE
*for the Extraction Method in the
SOYBEAN INDUSTRY*

The Skellysolve especially refined for the extraction of soybean oil not only gets *more oil* from each bushel of soybeans but, also, the extraction process is more favorable to the retention of nutritional properties of soybean meal than either of the two mechanical processes. Skellysolve has the correct boiling range; is free from greasy residues, foreign tastes and odors. These qualities are essential to the success of the more efficient extraction method.

SKELLYSOLVE

SOLVENTS DIVISION, SKELLY OIL CO.
SKELLY BLDG., KANSAS CITY, MO.